

SCAG REGIONAL TRANSPORTATION MODEL REVIEW

Background

In reviewing recent modeling results produced by SCAG's Regional Transportation Model, several freeway segments were discovered to have lower peak-period volumes in the future year 2025 than in the base year 1997. This phenomenon of diminishing freeway volumes is especially pronounced when only peak period light-duty vehicles are reported. These modeling results have raised questions regarding the "reasonableness" of the forecast produced by SCAG's Regional Transportation Model and have been called "counter-intuitive" by some observers in view of overall regional growth.

SCAG's Modeling Staff conducted an extensive analysis of the model structure, inputs, and assumptions. A Peer Review Panel was convened on January 25, 2002 to review SCAG's analysis and conclusions. The Peer Review Panel was composed of modeling experts from both public agencies and private companies throughout the United States. The Panel was asked to consider the following questions?

- 1) Does SCAG's Regional Transportation Model use modeling practices which are consistent with those used by similar sized metropolitan planning organizations (state-of-the-practice modeling techniques)?
- 2) Is SCAG's Transportation Model a reliable tool for use in the regional planning process?
- 3) Are the modeling results reasonable given the inputs and assumptions?
- 4) What improvements or enhancements could be made to SCAG's Model?

Panel's Conclusions

SCAG's Staff provided the Peer Review Panel an overview of SCAG's modeling process and presented a detailed analysis of the diminishing freeway volume issue. The Panel then reviewed SCAG's findings and provided their input. The following are the Peer Review Panel's general conclusions regarding the reliability of SCAG's Regional Transportation Model and suggestions for future model improvements. These conclusions represent the group's general consensus.

- 1) SCAG's Transportation Model provides a good example of state-of-the-practice modeling techniques and should provide a reliable tool for evaluating the transportation impacts of regional land use scenarios and transportation system alternatives. It was noted that various aspects of the SCAG Regional Transportation Model are toward the leading edge of the state-of-the-practice.
- 2) Year 2025 regional travel projections produced by the Transportation Model are reasonable given the projected changes in land use, population, and employment. The Transportation Model performs as expected and the noted declines in some projected highway volumes are primarily the product of the redistribution of urban activity in the SCAG Growth Forecast. The Panel questioned whether the SCAG Growth Forecast was feasible and consistent with the projected transportation system.
- 3) SCAG's Regional Transportation Model will benefit from several model enhancement projects and the wealth of travel related data now being collected. Several improvements were suggested for the Transportation Model focusing on refining the trip distribution component, adding more specification in the mode choice model, and fine-tuning the highway network assignment methodology as the elements having the most significant enhancement potential. The absence of a transportation component in the growth forecasting methodology was considered the most critical deficiency among SCAG's current planning processes.